IN SITU FEATURE HEIGHT MEASUREMENT

ABSTRACT OF THE DISCLOSURE

Embodiments of the invention provide methods and apparatus for in situ feature height measurement of an object being planarized. In one embodiment, a method of planarizing an object comprises polishing a surface of the object to be planarized using a polishing pad having a cavity; and directing an incident light from the cavity of the polishing pad to optically measure feature heights of surface features on the surface of the object to obtain measurement data during the polishing of the surface using the polishing pad. The feature heights are relative height differences of the features measured by directing the incident light at the surface of the object from the cavity and observing a reflected light intensity of a reflected light from the features on the surface to the cavity.